

Researcher and developer specializing in multi-user VR design for scientific applications

Education

PhD Computational Media University of California, Santa Cruz (**in progress**)

Advisor: Dr. Katherine Isbister of the Social and Emotional Technology Lab

BS Computational Linguistics University of Southern California

2018

BA Cognitive Science University of Southern California

Experience

Assistant Director of the Ahmanson Lab, USC Harman Academy

Jan 2019 - Aug 2022

The Ahmanson Lab provides produces interdisciplinary VR/AR projects, makerspace resources, and workshops

- Produced various VR, AR, and installation experiences, collaborating across institutions and scholarly disciplines

[Booksnake AR \(link\)](#)- NEH funded AR app displaying assets from the Library of Congress and other archival information

[Bunker Hill VR \(link\)](#) - Historical recreation of 1930s downtown Los Angeles using civil engineering data

[Stanza Del Segnatura \(link\)](#)- WebGL 3D app that overlays primary sources over frescoes from The Vatican

- Created and taught hands-on workshop series spanning deep learning, VR and AR development, computer graphics, robotics, 3D printing, and issues in privacy rights and AI
- Maintained fabrication resources for students and professors including 3D printing, and microcontroller resources (weekly usage 100 to 250 people)

VR Developer, YUR Inc.

Jul 2021 - Dec 2021

YUR Inc. is a VR fitness startup that makes a variety of products for exercise and wellness gamification

- Specified and implemented network architecture to connect a Unreal Engine based VR app telemetry to social networking, health metrics, and game account APIs
- Created efficient GPU based instanced materials for gameplay mechanics and ambient environment elements
- Migrated assets, networking code, and machine learning models from a Unity plugin to Unreal and worked with an engineering team for XR integration and cybersecurity considerations

DevOps Engineering Intern, Intel Corporation

Summer '16, Summer '18, Fall '18

My division leveraged massive server farms and supercomputers for in-house computing

- Implemented a scalable, real-time cybersecurity threat responder and visualization system using OSSEC, Wazuh and Elasticsearch (200k+ server machines monitored per instance)
- Extended a hardware agnostic firmware service tool from CLI to a web interface using Node.js, various front-end frameworks, and full stack development practices
- Created real-time visualizations of server availability and update status during scheduled server farm downtime using Kibana and Python scripting

Software Assistant for Behnaz Farahi

Aug 2016 - Dec 2017

Behnaz Farahi produces internationally acclaimed fashion pieces, integrating cutting edge wearable technology

- Created efficient microcontroller software to integrate various sensor data with lights, pneumatics, and motor driven systems concealed in 3D-printed dresses — exhibited at venues such as SIGGRAPH and Ars Electronica

[Bodyscape \(link\)](#) - Gait driven and generative light patterning algorithms, remote operation, hardware engineering

- Repaired electronics and modified code under time pressure at exhibitions, runway shows, and film shoots

Research Assistant, USC Brain and Creativity Institute

Mar 2015 - Aug 2015

The USC Brain and Creativity Institute explores a variety of topics through Neuroscience

- Filtered and cleaned EEG data for neuroscience approaches to states of consciousness and perception studies
- Attended seminars combining neuroscience with law, religion, meditation, and cognitive modeling

QA Intern, Enlighted Inc.

Summer '14

Enlighted makes intelligent light systems for commercial buildings

- Designed and Built test rigs for infrared sensors to verify output voltages
- Implemented tools and processes to fix mass quantities of faulty units

Notable Projects

[Google Summer of Code '22 \(link\)](#) - Open source contributions for the Processing Foundation, p5.js to WebXR

[Generative Art Pieces \(link\)](#) - Creative code samples using shader and generative techniques